

Date: Wednesday, 25/02/2009 2:26:54 PM
 User: Julie Dawson

Process Sheet

Rush

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : LUG ASSEMBLY
 Job Number : 46072
 Estimate Number : 10913
 P.O. Number :
 This Issue : 25/02/2009 S.O. No. :
 Prsht Rev. : NC Part Number : D3405043
 First Issue : 25/02/2009 Type : LARGE FAB ASSY Drawing Number : D3405 REV B
 Previous Run : 05049 Drawing Revision : B
 Material :
 Due Date : 04/03/2009 Qty: 20 Um: Each
 Written By :
 Checked & Approved By : 2009.02.25
 Comment : Est A 05.09.01 New issue KJ/JLM
 Est B 09.01.28 Rev b dwg EC verified by: DD

Additional Product

Job Number:



SCRAP

Seq. #: Machine Or Operation: Description :

1.0 M304S11GA 304/316 0.125 Sheet



Comment: Qty.: 0.1617 sf(s)/Unit Total : 3.2340 sf(s)
 304/316 .125 Sheet
 (M304S11GA)
 Batch: 109358 HB 9-2-26

2.0 WATER JET FLOW WATER JET



Comment: FLOW WATER JET
 1-Cut as per Dwg D3405
 Dwg Rev: B
 Prog Rev: B

HB 9-2-26

2-Deburr if necessary HB 9-2-26

3.0 QC2 INSPECT PARTS AS THEY COME OFF MACHINE



HB 9-2-26

Comment: INSPECT PARTS AS THEY COME OFF MACHINE

4.0 QC8 SECOND CHECK



Comment: SECOND CHECK

counters

5.0 BRAKE NC NC BRAKE



Comment: NC BRAKE

Deburr

Form using DT8204 as per Dwg D3405

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 25/02/2009 2:26:55 PM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: LUG ASSEMBLY

Job Number: 46072

Part Number: D3405043

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

S 08/02/07 *countin* *(K29)*

7.0

D34041

GHW Lug



Comment: Qty.: 1.0000 Each(s)/Unit Total : 20.0000 Each(s)

GHW Lug

Pick:

Qty Part number Description Batch

1 D3404-1 Lug

A/R SS Rod

1543/41
m9676

EL 9-3-2 *(K29)*

8.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

Weld as per Dwg D3405

Identify as D3405-043

EL 9-3-2 *(K29)*

9.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

EL 09.03.02

(K29)

10.0

QC5

INSPECT WORK TO CURRENT STEP

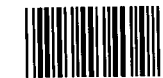


Comment: INSPECT WORK TO CURRENT STEP

11.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

START TIME: _____

OVEN TEMPERATURE: _____

FINISH TIME: _____

12.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

D3405 - D412-742-011

Part No: D3405-043 PAR #: N/A Fault Category: Q.A. NCR: (Yes) No DQA: A Date: 09/03/13
 Resolution: Document Process Revised Disposition: Scrap QA: N/C Closed: A Date: 09/03/17

NCR: <u>46072</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
09/03/10	7.0	All parts are scrap. A Rev. B D3404-1 top lug was welded to the D3405. Eng will not accept due to a 0.100" height difference.	<u>AS/11/12</u>	Scrap & destroy all per attached e-mail. Parts will not be able to be used mixed in with Rev. C.	<u>AS/09/03/12</u>	<u>SB</u> <u>02/03/12</u>	<u>AS/11/12</u>	<u>AS/03-10</u>
		R.C. Parts were not quarantined. Lack of communication. see ECN 09-588						

NOTE: Date & initial all entries

Date: Wednesday, 25/02/2009 2:26:55 PM
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Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: LUG ASSEMBLY

Job Number: 46072

Part Number: D3405043

Job Number:



Seq. #:

Machine Or Operation:

Description :

13.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: _____

14.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



Swap

MF
09-03-13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

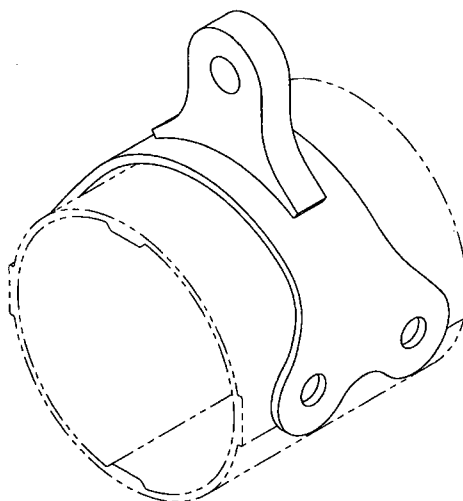
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

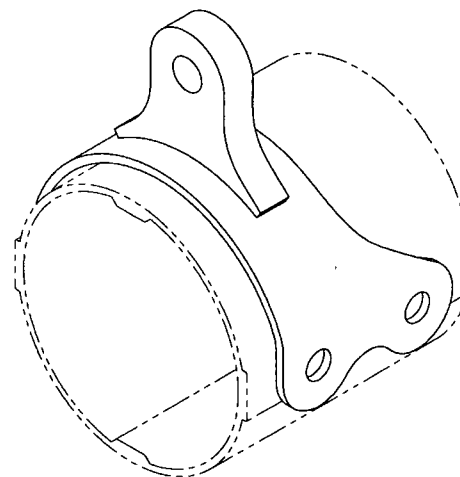
NOTE: Date & initial all entries

ITEM No.	QTY. -041	QTY. -043	PART NUMBER	DESCRIPTION
1	X		D3405-041	LUG ASSEMBLY
2		X	D3405-043	LUG ASSEMBLY
11	1	1	D3404-1	GHW LUG
12	1		D3405-1	GHW BRACKET
13		1	D3405-3	GHW BRACKET

△B



D3405-041 LUG ASSEMBLY
(SKID TUBE SECTION SHOWN
FOR REF ONLY)



D3405-043 LUG ASSEMBLY
(SKID TUBE SECTION SHOWN
FOR REF ONLY)

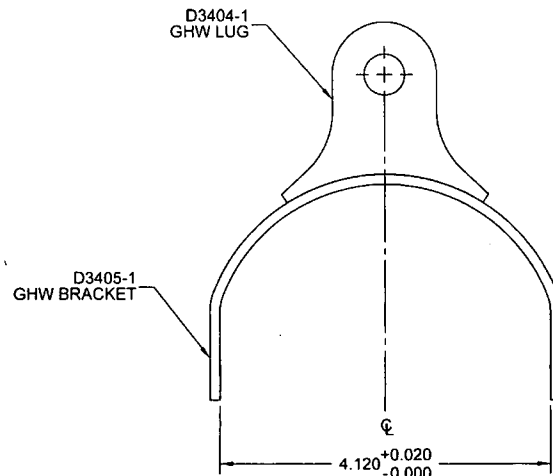
RELEASED
08/12/18

B	DRAWING REDRAWN IN SOLIDWORKS WITH CURRENT STANDARDS AND TRANSFERRED TO "B" SIZE BORDER. FLAT PATTERNS FOR -1 & -3 INCREASED IN LENGTH TO PREVENT FOULING AT INSTL (SEE PAR198). SHEETS 3 & 4 ZONE A6 4.120 DIM WAS 4.100.		AJS	08.09.19
A	NEW ISSUE		PH	05.03.08
REV.	DESCRIPTION		BY	DATE
DESIGN	PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		
DRAWN	AJS			
CHECKED		DRAWING NO.	REV. B	
MFG. APPR.		D3405	SHEET 1 OF 4	
APPROVED		TITLE	SCALE	
DE APPR.		GHW LUG ASSEMBLY	NTS	
DATE	08.09.19		COPYRIGHT © 2005 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	

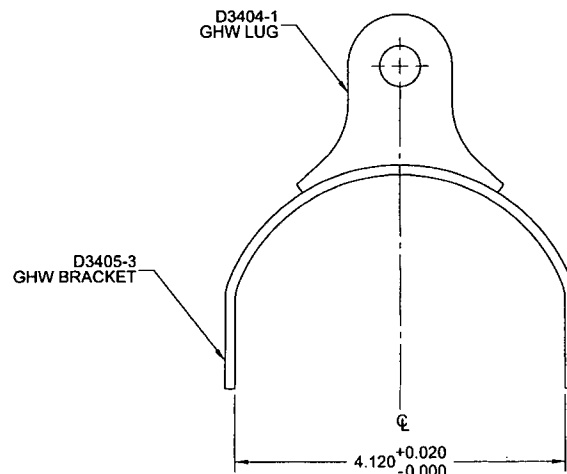
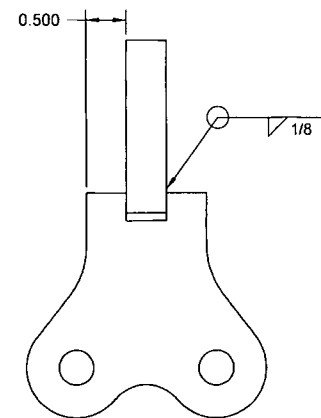
NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT ASSEMBLY WHITE (4.3.5.2) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3405-041" USING FINE POINT PERMANENT INK MARKER
: IDENTIFY WITH DART P/N "D3405-043" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: -041, 0.85 lbs
-043, 0.87 lbs

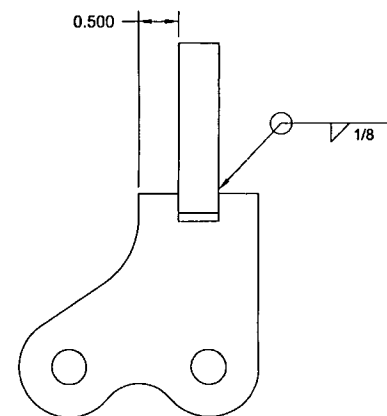
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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 110012



D3405-041 LUG ASSEMBLY



D3405-043 LUG ASSEMBLY

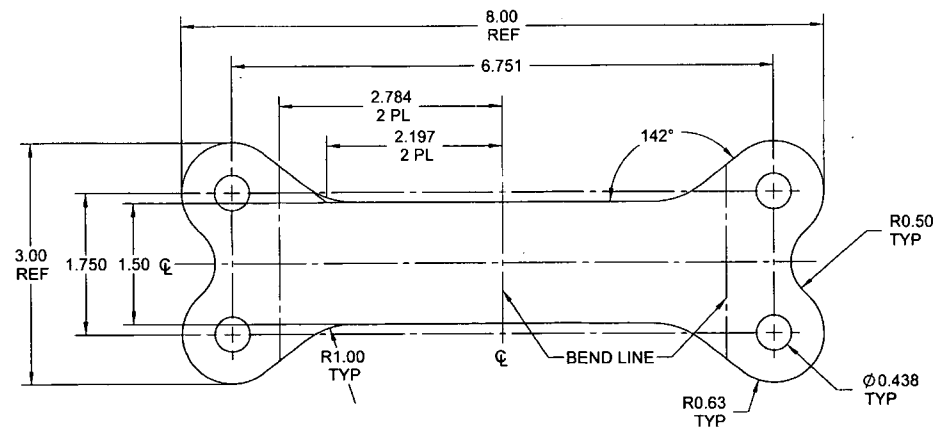


RELEASED
06/12/18

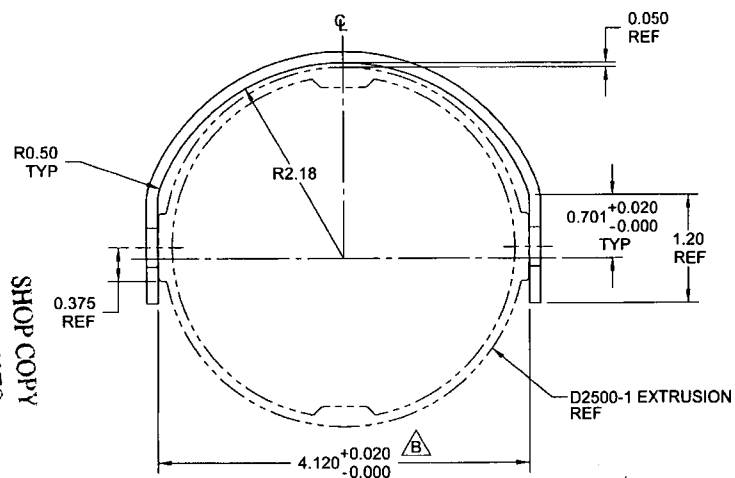
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WORK ORDER
NO. 70002

DESIGN	PH	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO. D3405	REV. B
MFG. APPR.		SHEET 2 OF 4	
APPROVED		TITLE	SCALE
DE APPR.		GHW LUG ASSEMBLY	
DATE	08.09.19	NTS	

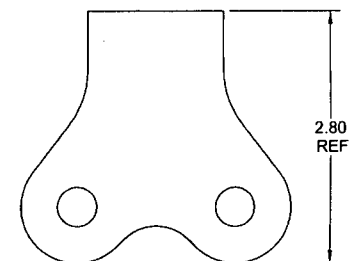
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D3405-1F GHW BRACKET FLAT PATTERN



D3405-1 GHW BRACKET
(MAKE FROM D3405-1F)



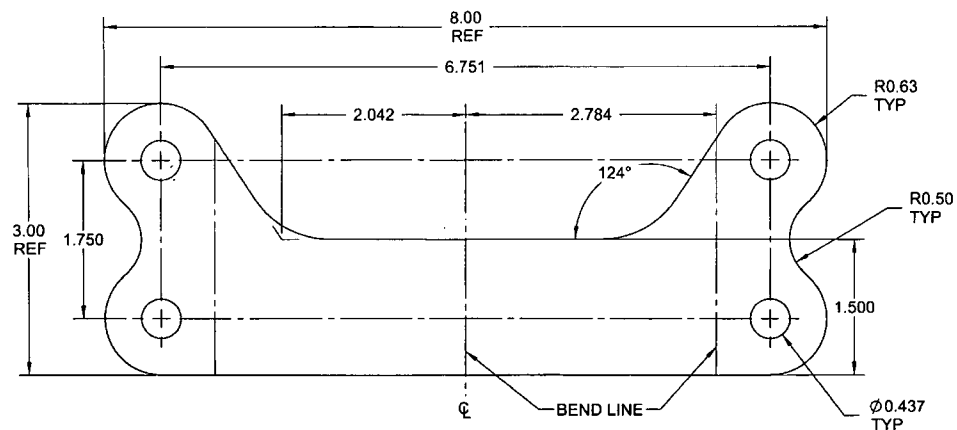
SIDE VIEW FOR REF ONLY

- NOTES:
1) MATERIAL: AISI 304/316 STAINLESS STEEL SHEET, 11 GAUGE (0.125 THICK)
PER MIL-S-5059 (ANNEALED) 2B FINISH OR AMS 5513/5524
REF. DART SPEC. M304S11GA
2) FINISH: N/A
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: N/A
7) WEIGHT: N/A

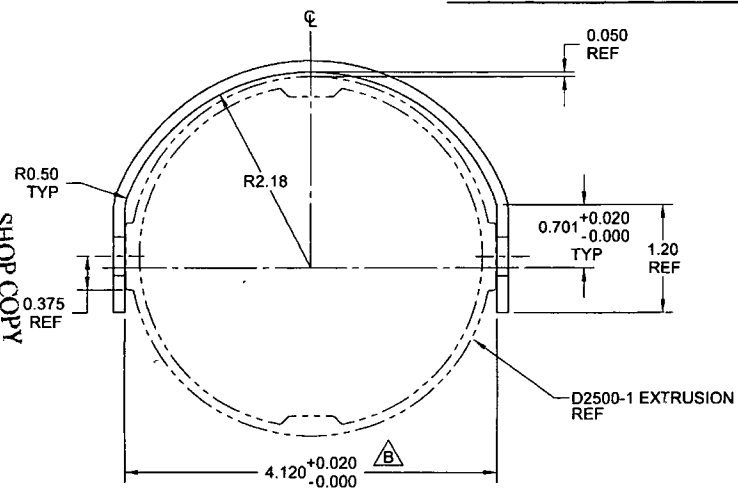
DESIGN	PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED		DRAWING NO. D3405	REV. B
MFG. APPR.		TITLE GHW LUG ASSEMBLY	SHEET 3 OF 4
APPROVED		SCALE	NTS
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DATE	08.09.19		

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08/08/12/13

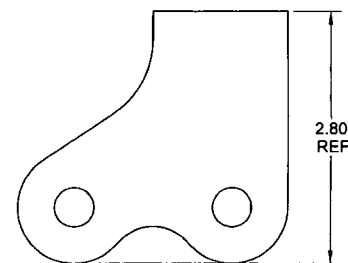
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WITHOUT NOTICE
WORK ORDER
NO. 440072



D3405-3F GHW BRACKET FLAT PATTERN



D3405-3 GHW BRACKET
(MAKE FROM D3405-3F)



SIDE VIEW FOR REF ONLY

NO 110072
WORK ORDER
WITHOUT NOTICE
SUBJECT TO AMENDMENT
ENGINEERING
RETURN TO
SHOP COPY
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- NOTES:
- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SHEET, 11 GAUGE (0.125 THICK)
PER MIL-S-5059 (ANNEALED) 2B FINISH OR AMS 5513/5524
REF. DART SPEC. M304S11GA
 - 2) FINISH: N/A
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: N/A
 - 7) WEIGHT: N/A

RELEASED
08/12/19

DESIGN	PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	A/S		
CHECKED		DRAWING NO. D3405	REV. B
MFG. APPR.			SHEET 4 OF 4
APPROVED		TITLE GHW LUG ASSEMBLY	SCALE NTS
DE APPR.		COPYRIGHT © 2005 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	
DATE	08.09.19		

L Lacelle

From: David Shepherd [dshepherd@dartaero.com]
Sent: March 3, 2009 12:18 PM
To: 'Peter Hum'
Cc: 'Alan Stocker'; 'Mike Petsche'; 'Linda Lacelle'; 'Bill Beckett'
Subject: RE: Deviation on D3405-041/-043

B 46072

Peter,

In re-designing the part, we deliberately tried to keep the distance to the hole in the lug the same so that the parts would be backwards compatible and interchangeable with parts in the field. If we have 0.100" variation between parts, I also have concerns about installing the ground handling wheels, as Mike has outlined below. For the sake of 20 parts, I recommend we SCRAP them to avoid problems in the future.

Linda,

Alan says he clearly conveyed the fact that the old "lugs" should not have been mixed with the new "dog bones" and vice versa.

Is this your recollection and if so, how did we end up mixing up parts???

David

From: Mike Petsche [mailto:mpetsche@dartaero.com]
Sent: Tuesday, March 03, 2009 7:33 AM
To: 'Peter Hum'; 'David Shepherd'
Cc: 'Alan Stocker'
Subject: RE: Deviation on D3405-041/-043

Just my two cents, but if they got mixed in with "correct" lugs, wouldn't it make it difficult to install the GHW's? I'm assuming that GH lugs don't get replaced on skidtubes that often, so maybe it's not a big deal...as long as they are kept in pairs?

From: Peter Hum [mailto:phum@dartaero.com]
Sent: Tuesday, March 03, 2009 9:23 AM
To: David Shepherd
Cc: 'Alan Stocker'; mpetsche@dartaero.com
Subject: Deviation on D3405-041/-043

David,

See attached. On the updated welded assembly of the D3405-041/-043 (Ground Handling on 205/212/412). There has been an error in the parts used in the assembly:

- a) D3404-1 I.A.W. **Rev. B** were welded to the new D3405-1 IAW Rev. B to make an assembly of D3405-041 IAW Rev. B
- b) However, the new D3405-041 assembly (Rev. B) was designed to have the new D3404-1 I.A.W. **Rev. C**
- c) The difference in the D3404-1's is the height from the center of the hole to the center of the skidtube
- d) Prior to welding, there should have been gap between D3404-1 Rev. B and the updated D3405-1 "dog bone". However, I believe the gap has been welded

05/03/2009

Basically, the incorrect D3404-1 was used on the new D3405-041 Lug. I think we had D3404-1 Rev. B that were left in stock and used without notification of the change.

The end result is that the ground handling hole is higher. I'm not sure how to handle this one. What do you think?

Peter

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Checked by AVG.

Version: 7.5.557 / Virus Database: 270.11.5/1979 - Release Date: 3/1/2009 5:46 PM

No virus found in this outgoing message.

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Version: 7.5.557 / Virus Database: 270.11.6/1981 - Release Date: 3/3/2009 7:25 AM